EXHIBIT D

Department of Health & Human Services
Office of the National Coordinator for
Health Information Technology

The ONC-Coordinated
Federal Health Information Technology
Strategic Plan: 2008-2012

SYNOPSIS

June 3, 2008

The ONC-Coordinated
Federal Health Information Technology
Strategic Plan: 2008-2012

Using the Power of Information Technology to Transform Health and Care

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About the Office of the National Coordinator
for Health Information Technology

On April 27, 2004, President Bush issued Executive Order (EO) 13335 "to provide leadership for the development and nationwide implementation of an interoperable health information technology infrastructure to improve the quality and efficiency of health care," establishing the position of a National Coordinator for Health Information Technology (IT) within the Office of the Secretary of Health and Human Services. Acknowledging the role of multiple executive branch agencies in addressing the vision of this nationwide architecture, the National Coordinator was charged with ensuring coordination of federal health IT policies and programs and of relevant executive branch agency outreach and consultation with public and private entities. Thus, the National Coordinator provides the leadership necessary to support national progression to a health IT architecture envisioned to:

- Ensure that appropriate information to guide medical decisions is available at the time and place of care;
- Improve health care quality, reduce medical errors, and advance the delivery of appropriate, evidence-based medical care;
- Reduce health care costs resulting from inefficiency, medical errors, inappropriate care, and incomplete information;
- Promote a more effective marketplace, greater competition, and increased choice through the wider availability of accurate information on health care costs, quality, and outcomes;
- Improve the coordination of care and information among hospitals, laboratories, physician offices, and other ambulatory care providers through an effective architecture for the secure and authorized exchange of health care information; and
- Ensure that patients' individually identifiable health information is secure, protected, and available to the patient to be used for non-medical purposes, as directed by the patient.

The Office of the National Coordinator for Health IT (ONC), since 2004, continues to advance the national health IT agenda to achieve President Bush's target for the majority of Americans to have access to electronic health records (EHRs) by 2014.

Message from the National Coordinator for Health Information Technology

Looking toward the future, we can envision a health care system that is centered on each and every individual patient. Clinicians will have at their fingertips all of the information needed to provide the best care; individuals will have access to this and other information that can help them engage and insert their values in the decision-making process about their health and care; and, secure and authorized access to health data will provide new ways that biomedical research and public health can improve individual health, and the health of communities and the Nation.

Underpinning that system is the ability for patients and providers to electronically share accurate health care information securely while protecting patient privacy. This concept of a connected system of information is referenced as the interoperable health IT architecture and is characterized by widespread use of electronic health records (EHRs) and health information exchange everywhere.

In order to reach the goal of most Americans having access to EHRs by 2014, adoption of interoperable health IT systems needs to remain at the forefront of national priorities.

The Department of Health and Human Services (HHS) has made significant progress in building the foundation for this interoperable health IT architecture – the Nationwide Health Information Network – over the past four years. We must, however, maintain momentum and demonstrate to the general public the value of this work.

The ONC-Coordinated Federal Health Information Technology Strategic Plan (the Plan) sets forth a number of goals, objectives, and strategies that, for the first time, brings together all federal efforts in health IT in a coordinated fashion. It will guide the advancement of health IT throughout the federal government for the next five years.

I would like to personally thank ONC and ONC's many partners in federal service who contributed to the development of this Plan. Together with our colleagues in the private sector, we will assure that health IT can enable patient-focused health care and improve population health. In doing so, we will be using the power of IT to transform health and care.

Robert M. Kolodner, MD
National Coordinator for
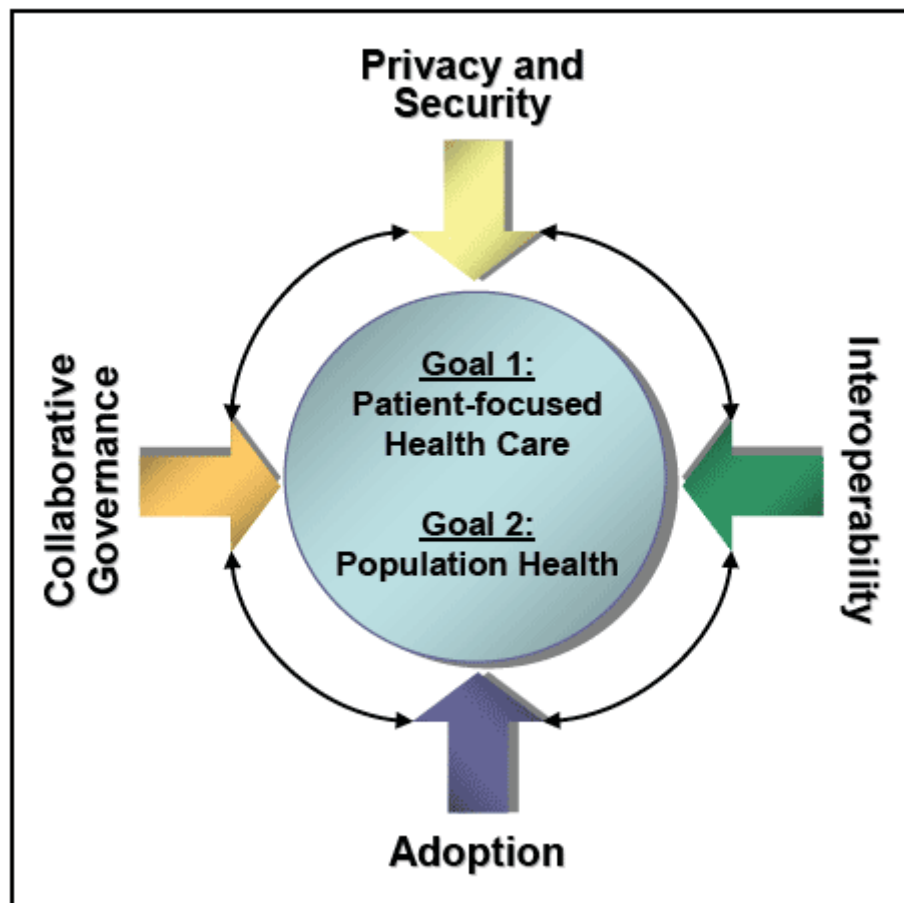Health Information Technology

Goals and Organization of the Plan

The Plan has two goals, Patient-focused Health Care and Population Health, which are defined as follows:

Patient-focused Health Care: Enable the transformation to higher quality, more cost-efficient, patient-focused health care through electronic health information access and use by care providers, and by patients and their designees.

Population Health: Enable the appropriate, authorized, and timely access and use of electronic health information to benefit public health, biomedical research, quality improvement, and emergency preparedness.

Each goal has four objectives and the ***themes of privacy and security, interoperability, adoption, and collaborative governance*** recur across the goals, but they apply in very different ways to health care and population health. The goals, as they are organized around the core themes, are summarized below:

The Plan articulates strategies that describe the work needed to achieve each objective. As a group, the strategies are characterized by:

- Commitment to the engagement of multiple stakeholders across the public and private sectors;
- Concern for reliability, confidentiality, privacy, and security when exchanging, storing, and using electronic health information; and
- Focus on the consumer of health care as a critical participant in achieving the two overarching goals of the Plan.

The goals, objectives, and strategies of the Plan portray the totality of what must be done, *in a coordinated manner distributed across the federal government*, to achieve an interoperable health IT architecture for the nation in support of patient-focused health care and population health. To emphasize the collaborative nature of this initiative, a major component of the Plan is a compilation of relevant federal agency projects, as well as partnerships between those federal agencies and other stakeholders, that are already underway in pursuit of one or more of the specific objectives.

In developing the Plan, ONC worked with other federal agencies to solicit input and assure that the full breadth of federal activity was reflected. ONC will periodically update the Plan and actively engage other federal agencies in re-evaluating the strategic objectives and strategies, and in tracking progress toward these goals and objectives. Health IT has and will continue to rapidly evolve, and the federal government will need to remain flexible with its strategies to move forward in this changing environment.

A summary of the strategic goals and objectives is provided in Table A. Charts 1 through 4 address the key strategies and timeframes for each objective.

TABLE A: Summary of Health IT Strategic Goals and Objectives: 2008-2012

	Privacy and Security	Interoperability	Adoption	Collaborative Governance
Goal 1. Patient-focused Health Care	**Objective 1.1:** Facilitate electronic exchange, access, and use of electronic health information, while protecting the privacy and security of patients' health information.	**Objective 1.2:** Enable the movement of electronic health information to support patients' health and care needs.	**Objective 1.3:** Promote nationwide deployment of electronic health records (EHRs) and personal health records (PHRs) and other consumer health IT tools.	**Objective 1.4:** Establish mechanisms for multi-stakeholder priority-setting and decision-making.
Goal 2. Population Health	**Objective 2.1:** Advance privacy and security policies, principles, procedures, and protections for information access in population health.	**Objective 2.2:** Enable exchange of health information to support population-oriented uses.	**Objective 2.3:** Promote nationwide adoption of technologies to improve population and individual health.	**Objective 2.4:** Establish coordinated organizational processes supporting information use for population health.

Privacy and Security

The success of a nationwide, interoperable health IT architecture in the United States will require a high degree of public confidence and trust. Health information exchange must maintain privacy and security.

Chart 1 – Privacy and Security

Privacy and Security						
Goal 1: Patient-focused Health Care						
	Strategies	**2008**	**2009**	**2010**	**2011**	**2012**
Objective 1.1 – Facilitate electronic exchange, access, and use of electronic health information, while protecting the privacy and security of patients' health information.	1.1.1: Develop a confidentiality, privacy, and security framework.	▓				
	1.1.2: Identify best practices to ensure confidentiality, integrity, and availability of information.	▓	▓	▓		
	1.1.3: Facilitate state-based efforts for protected exchange of health information.	▓	▓			
	1.1.4: Increase stakeholder trust of health IT through education.	▓	▓			
	1.1.5: Address apparently inconsistent statutes and regulations for exchange of electronic health information.	▓	▓	▓	▓	
Goal 2: Population Health						
Objective 2.1 – Advance privacy and security policies, principles, procedures, and protections for information access in population health.	2.1.1: Employ the privacy and security framework for population health information.	▓				
	2.1.2: Address apparently inconsistent statutes or regulations for exchange of population health information.	▓	▓	▓	▓	
	2.1.3: Facilitate state-based efforts for protected exchange of population health information.	▓	▓	▓	▓	
	2.1.4: Increase stakeholder understanding of current federal privacy and security laws.	▓	▓	▓	▓	

Interoperability

To effectively exchange health information, health IT systems and products must use consistent, specific data and technical standards.

Chart 2 – Interoperability

Interoperability						
Goal 1: Patient-focused Health Care						
	Strategies	**2008**	**2009**	**2010**	**2011**	**2012**
Objective 1.2 – Enable the movement of electronic health information to support patients' health and care needs.	1.2.1: Advance use of specified data and technical standards for interoperability.	■	■			
	1.2.2: Identify core capabilities for networks to exchange health information.	■	■			
	1.2.3: Foster the business case for exchange of health information.	■	■			
	1.2.4: Increase the volume of standardized exchange of health information to enhance its value.	■	■	■		
	1.2.5: Promote processes for testing implementation of recognized standards and policies.	■	■	■		
	1.2.6: Encourage provision of electronic personal health information in standardized form.	■	■	■	■	■
	1.2.7: Increase the number of competitive health information service providers.	■	■	■	■	■
	1.2.8 Use standards to empower use of health information beyond direct patient care delivery.	■	■			
Goal 2: Population Health						
Objective 2.2 – Enable exchange of health information to support population-oriented uses.	2.2.1: Advance standards to support the merging of comparable population health information.	■	■			
	2.2.2: Enable flexible models for exchange of population health information.	■	■			
	2.2.3: Assess providers' and networks' implementation of standards.	■	■	■		
	2.2.4: Promote availability of population health information in electronic form.	■	■	■		
	2.2.5: Provide population health information needed for emergency response.	■	■	■		

Adoption

Standards and policies that will enable the widespread adoption and ongoing use of health IT must be developed. The widespread use of health IT will allow patients to receive better health and personalized care.

Chart 3 - Adoption

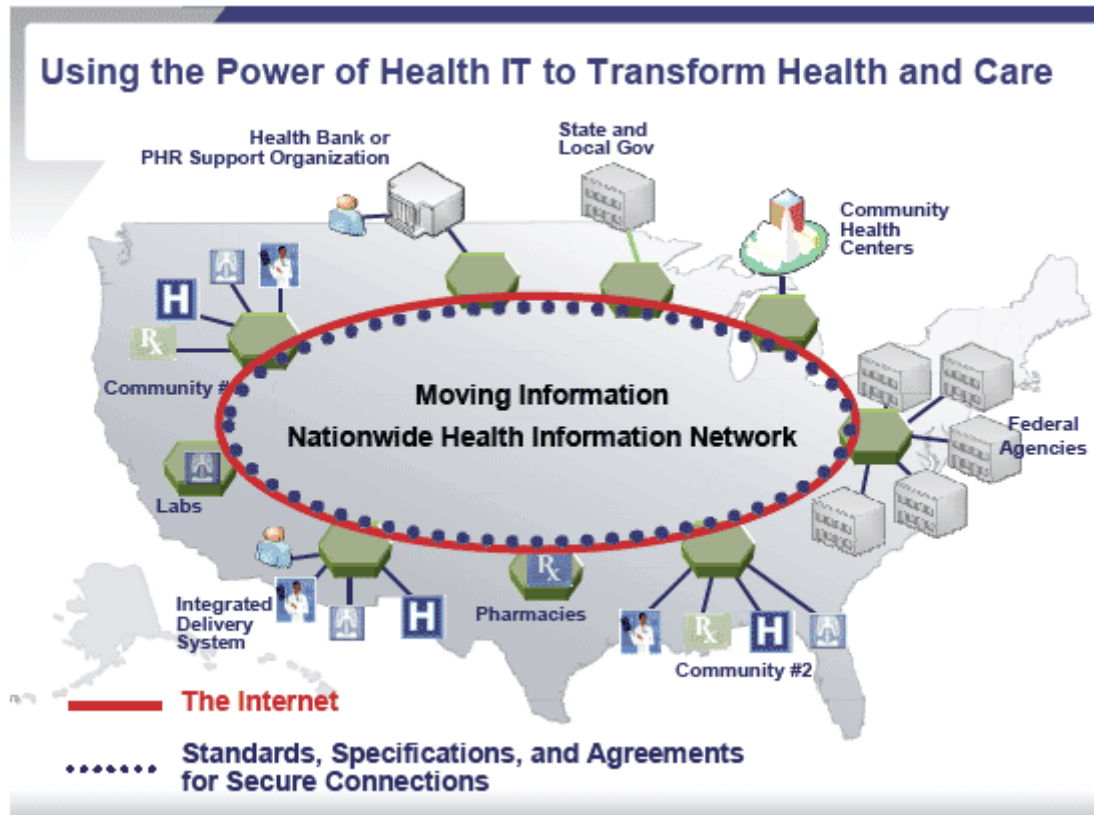| Adoption						
Goal 1: Patient-focused Health Care						
	Strategies	2008	2009	2010	2011	2012
Objective 1.3 – Promote nationwide deployment of electronic health records (EHRs) and personal health records (PHRs) and other consumer health IT tools.	1.3.1: Remove business obstacles for provider use of EHRs.	■	■	■		
	1.3.2: Make EHRs easy to buy and implement.	■	■			
	1.3.3: Increase value of EHRs through technology.	■	■	■		
	1.3.4: Promote certified health IT products as essential to clinical care.	■	■	■		
	1.3.5: Develop the workforce for health IT product development and use.	■	■	■		
	1.3.6: Identify ways for PHRs to link to useful health and care applications.	■	■			
	1.3.7: Advance PHR and consumer health IT tools.	■	■	■		
	1.3.8: Minimize provider liability when using health IT.	■	■	■	■	
	1.3.9: Remove barriers to treating patients outside of provider offices.	■	■	■	■	■
Goal 2: Population Health						
Objective 2.3 – Promote nationwide adoption of technologies to improve population and individual health.	2.3.1: Optimize exchange of EHR and population health information among users.	■	■	■	■	■
	2.3.2: Minimize provider burden for population health reporting.	■	■	■	■	■
	2.3.3: Electronic exchange of population health data among various stakeholders.	■	■	■	■	■

Collaborative Governance

It is essential that collaborative governance occurs across the public and private sectors and involves all individuals and organizations with a stake in health-related activities.

Chart 4 – Collaborative Governance

Collaborative Governance						
Goal 1: Patient-focused Health Care						
	Strategies	2008	2009	2010	2011	2012
Objective 1.4 – Establish mechanisms for multi-stakeholder priority-setting and decision-making.	1.4.1: Establish an entity to advance nationwide exchange of health information.	▒	▒			
	1.4.2: Assure consumer representation in stakeholder governance.	▒	▒	▒	▒	
	1.4.3: Promote active and appropriate participation by all relevant government agencies in multi-stakeholder governance entity activities.	▒	▒	▒	▒	
Goal 2: Population Health						
Objective 2.4 – Establish coordinated organizational processes supporting information use for population health.	2.4.1: Advance data stewardship models for exchange of population health information.	▒	▒	▒		
	2.4.2: Implement quality measures in ways compatible with different models for exchange of health information.	▒	▒	▒	▒	▒
	2.4.3: Connect clinical care and public health through exchange of electronic health information.	▒	▒	▒		
	2.4.4: Connect clinical care and research through exchange of electronic health information.	▒	▒	▒		
	2.4.5: Create accountability for implementing exchange of electronic health information.	▒	▒	▒	▒	
	2.4.6: Develop, implement, and oversee health data sharing strategy across federal agencies.	▒	▒	▒	▒	▒

How Health Information Technology Can Help Transform Health and Care: Defining Success

Over time, as information begins to move among EHRs and PHRs, individuals will connect with their clinicians, clinicians will connect with other care providers, and health-related communities will connect with each other to enable the improvements in health and care that everyone wants. As these connections are made, the Nationwide Health Information Network, or NHIN, will evolve fully and provide communities across the entire nation with the ability to securely exchange electronic health information.

Ultimately, we will know we have achieved success when:
- Health IT becomes common and expected in health care delivery nationwide for all communities, including those caring for underserved or disadvantaged populations;
- Your health information is available to you and those caring for you so that you receive safe, high quality, and efficient care;
- You will be able to use information to better determine what choices are right for you with respect to your health and care; and
- You trust your health information can be used, in a secure environment, without compromising your privacy, to assess and improve the health in your community, measure and make available the quality of care being provided, and support advances in medical knowledge through research.

EHRs and PHRs will be the key technologies over the next several years to enable this transformation in health and care. The outcomes anticipated as a part of the health IT architecture will allow authorized access to comprehensive individual health information for patient care, consumer self-management of health, and a wide range of research, quality, emergency response, and public health initiatives. Beyond these health IT tools, the health IT architecture requires health information exchange networks to support secure and reliable information exchange within and across communities. Both the tools and the network must use recognized interoperability standards to make this work.

Health Information Technology as a Top Federal Priority: Work to Date

Today, many of the critical pieces are in place to realize the goals of the Plan, but there is still a great deal of work ahead in order to achieve full success. We, the federal government, working with state and local governments and the private sector, have established the critical processes – the foundation for successful health IT – to move the Nation towards an interoperable health IT architecture. This architecture will be supported by federal efforts which will guide interoperability, adoption, and collaborative governance for the exchange of electronic health information, and ensure the privacy and security of health information. Critical activities already underway include, but are not limited to:

- *Privacy and Security:* We are working at the federal level to promote a collaborative approach to crafting solutions that maintain the privacy and security of patient information while enabling appropriate exchange, access, and use of electronic health information. Only when individuals trust that there are security mechanisms in place and the privacy of their data is at all times respected and protected, will they allow their data to be shared. We are also working at the state level to encourage and facilitate the secure exchange of electronic health information which protects individuals' privacy.

- *Interoperability:* We are recognizing interoperability standards at the federal level so information exchange through the use of EHRs and EHR-to-PHR information exchange can happen reliably and securely. We are advancing the use, by federal agencies and their contractors, of health IT systems and products that meet recognized interoperability standards. We are also working to connect various health information exchange organizations through the NHIN to start sharing data with each other.

- *Adoption:* We are supporting a process for certifying EHRs to assure that they meet specific criteria for critical functions and security, and ultimately incorporate the federally recognized standards to achieve interoperability. We are also working on other approaches to increase adoption and use of health IT, such as incentives for use of EHRs to improve the quality of care.

- *Collaborative Governance:* We established a federal advisory committee which includes members of both the public and private sectors, to recommend priorities necessary to accelerate the advancement of health IT. We are assisting in the establishment of a new public-private entity, to have broad based participation from

the public and private sectors that will continue to advance the use of common standards and policies and will provide a governance structure for health IT.

Accelerating the Momentum: Achieving the Tipping Point

Malcolm Gladwell, renowned author of *The Tipping Point*, explained the tipping point as the "level for which the momentum for change becomes unstoppable." As with any new technology, truly widespread use of health IT will not occur immediately. Adoption of health IT among physicians is slowly rising – from 10 percent in 2005 to 14 percent in 2007. In 2009, the first set of health information exchanges will share real data, in real time, through the NHIN. As all of the health IT initiatives that are underway grow and continue to produce results, there will be a shift in how individuals interact with the health care system.

The processes currently underway will enable the technology – products and networks – to advance far enough to make the vision of a nationwide health IT architecture a reality. However, this effort is not just about technology. It is about a change in the way the nation views health and care. We envision that our current activities will begin to create this change:

- As information moves securely through the NHIN, individuals will gain the necessary trust to allow their data to be shared;
- Sufficient numbers of recognized standards will exist to cover basic health information exchange needs;
- Certified products will be available so providers can make purchases with confidence; and
- Appropriate governance will be in place to ensure that all stakeholders have a voice in how the nation moves forward with health IT.

Individuals will begin to expect that interoperable health IT will be used to manage their health and care, and providers will begin to view health IT as essential to what they do.

Moving Towards Health Information Technology: Anywhere, Anytime

Significant work is underway in the public and private sectors to advance interoperable health IT. The completed Plan brings together, for the first time, the catalog of current federal activities focused on health IT and a strategy for moving forward. These numerous efforts, along with those of the private sector, must continue and must be coordinated for the nation to accelerate the use of interoperable health IT and achieve the goals for patient-focused health care and population health. As the health IT architecture takes shape, the movement of data, with appropriate safeguards and privacy protections, will enable improvements in quality of care, increased access to information for better care management, and added opportunities to advance population health – community by community.

The nation will approach the tipping point during the timeframe of this Plan. While continuing work will be needed to fully embrace health IT throughout the United States,

the nation will see a rapid acceleration in the use of interoperable health IT and, in time, individuals will have access to their health information – anywhere, anytime.